

What is claimed is:

1. A safe power-off system used for an electrical system which comprises:

- 5 a main system;
a power supply apparatus for supplying power to said main system, capable of generating a power-off signal when the power is manually turned off; and
a power switch for controlling a power connection between said power supply apparatus and said main system
- 10 wherein said safe power-off system is used to receive said power-off signal and therefore generate a indication signal to facilitate said main system to perform a preparation program containing a system power-off preparation procedure, and then said safe power-off system can be triggered, as long as the performance of said system power-off preparation procedure is completed,
- 15 so as to notify the power switch to cut off the power connection between said main system and said power supply apparatus.

2. A safe power-off system according to claim 1, wherein said electrical system is a computer.

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3. A safe power-off system according to claim 1, wherein said system power-off preparation procedure further comprises a procedure of storing each data that is being proceeded by said main system to a storage device.

4. A safe power-off system according to claim 3, wherein said storage device can be one of a floppy disk drive, a hard disk, a compact disc-read only memory (CD-ROM) drive, a network disk drive attached to the Internet, or other buffer intermediates.

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5. A safe power-off system according to claim 3, wherein said preparation program further contains a procedure to determine whether said main system has completed the system power-off preparation procedure or not.

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6. A safe power-off system according to claim 1, wherein said preparation program further comprises a timer procedure to count time for power off.

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7. A safe power-off system according to claim 6, wherein said preparation program further comprises a procedure to determine whether said timer procedure has reached a predetermined time for power off.

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8. A safe power-off system according to claim 1, wherein said main system can send back a confirming signal, relied on complete of performing said power-off preparation procedure, to said safe power-off system thereby triggering said safe power-off system to control said power switch to cut off the power connection between said main system and said power supply apparatus.

9. A safe power-off method for controlling the power connection between a main system and a power supply apparatus, comprising:

receiving a power-off signal from said power supply apparatus;

5 generating a corresponding interrupt signal to said main system according to said power-off signal;

facilitating said main system to perform a preparation program according to said interrupt signal wherein said preparation program contains a system power-off preparation procedure which is necessary to be performed before
10 the power off of the main system;

writing a register signal into a register to trigger a safe power-off apparatus when said main system completes the performance of said preparation procedure; and

cutting off the power connection between said main system and said
15 power supply apparatus when said safe power-off apparatus is triggered.

10. A safe power-off method according to claim 9, wherein after said register signal is written into said register, said register signal can change the electrical potential of a special pin number of said register to trigger said safe
20 power-off apparatus.

11. A safe power-off method according to claim 9, wherein said power-off preparation procedure further comprises a procedure of storing a data that is being proceeded by said main system to a storage device.

12. A safe power-off method according to claim 11, wherein said storage device can be one of a floppy disk drive, a hard disk, a compact disc-read only memory (CD-ROM) drive, a network disk drive attached to the Internet, or other buffer intermediates.

13. A safe power-off method according to claim 11, wherein said preparation program further contains a procedure to determine whether said main system has completed said system power-off preparation procedure or not.

14. A safe power-off method according to claim 9, wherein said preparation program further contains a timer procedure to count time for power off.

15. A safe power-off method according to claim 14, wherein said preparation program further contains a procedure to determine whether said timer procedure has reached a predetermined time for power off.

16. A safe power-off method for controlling the power connection between a main system and a power supply apparatus, comprising:
receiving a power-off signal from said power supply apparatus;
generating a corresponding interrupt signal to said main system according said power-off signal;

facilitating said main system to perform a preparation program according to said interrupt signal wherein said preparation program contains a procedure to count a specified shutdown time;

5 writing a register signal into a register to trigger a safe power-off apparatus when said predetermined shutdown time is reached in count; and
cutting off the power connection between said main system and said power supply apparatus when said safe power-off apparatus is triggered.

10 17. A safe power-off method according to claim 16, wherein said preparation program further contains a timer procedure to determine whether said counted time has reached a predetermined shutdown time.

15 18. A safe power-off system used for an electrical system having a main system, a power supply apparatus for supplying power to said main system and a power switch for controlling a power connection between said power supply apparatus and said main system, said safe power-off system comprising:

20 a safe power-off apparatus capable of controlling said power switch to cut off the power connection between said main system and said power supply apparatus;

an interrupt controller capable of generating a corresponding interrupt signal to said main system when said safe power-off apparatus receives a power-off signal from said power supply apparatus;

a preparation program containing a system power-off preparation

procedure which is necessary to be performed before power off of said main system; and

5 a memory mapping register capable of receiving a register signal generated by said preparation program, as long as said main system completes the performance for said system power-off preparation procedure, thereby triggering the safe power-off apparatus to control said power switch to cut off the power connection between said main system and said power supply apparatus.

10 19. A safe power-off system according to claim 18, wherein said preparation program further comprises a procedure to determine whether said main system has completed the performance for said system power-off preparation procedure.

15 20. A safe power-off system according to claim 18, wherein said preparation program further comprises a timer procedure to determine whether a predetermined shutdown time has been reached in count.